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Each place of the comet is founded on ten comparisons in Right Ascension and ten in North Polar Distance.

Natal Observatory:
1885, *Feb.* 3.

Spectroscopic Results for the Motions of Stars in the Line of Sight obtained at the Royal Observatory, Greenwich, in the year 1884. No. VIII.

(*Communicated by the Astronomer Royal.*)

The results here given are in continuation of those printed in the *Monthly Notices*, vol. xxxvi. p. 318, vol. xxxvii. p. 22, vol. xxxviii. p. 493, vol. xli. p. 109, vol. xlii. p. 230, vol. xliii. p. 81, and vol. xliv. p. 89. The observations were made with the "half-prism" spectroscope, one "half-prism" with a dispersion of about 18½° from A to H being used, except in a few cases of bright stars, mentioned in the Remarks, where a train of two "half-prisms" with a dispersion of 80° from A to H was used. An eyepiece with a magnifying power of 14 was employed throughout.

The cylindrical lens has always been used in front of the slit as in the observations made previously to 1881. A slip of metal coated with Balmain's luminous paint inserted immediately behind the measuring pointer has been frequently employed to give a phosphorescent illumination of the field.

The observations of the Moon and of the sky spectrum have been made as a check on the general accuracy of the results.

The bright Hβ line in the spectrum of γ *Cassiopeiæ* was much fainter in 1884 than when observed in 1880, 1881, and 1883. It seemed also fainter for the observations made in September than for those made in August.

Motions of Stars in the Line of Sight, in Miles per Second, observed with the Half-prism Spectroscope.

(+ denotes Recession; − Approach.)

The initials M and N are those of Mr. Maunder and Mr. Nash respectively.

Date. 1884.		Obs.	No. of	Line Meas.	Earth's Motion in M per sec.	Concluded Motion of Star. Meas.	Concluded Motion of Star. Estimd.	Remarks.
						α Andromedæ.		
Aug.	7	M	2	F	−13·5	+ 4·2	− 1·4	Definition fair.
	11	M	3	F	−12·9	−13·5	− 9·2	Star-line fairly well defined.
	12	N	2	F	−12·7	−30·9	−34·9	Star-line faint.
	25	M	2	F	−10·3	−21·6	−18·0	Definition fair.
Sept.	4	M	2	F	− 8·1	−29·9	−27·1	Definition fair.
	10	M	2	F	+ 6·6	−22·1	−19·2	Definition fair.

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Date. 1884.	Obs.	No. of Meas.	Line.	Earth's Motion in M. per sec.	Concluded Motion of Star. Meas.	Concluded Motion of Star. Estimd.	Remarks.
Sept. 18	M	2	F	− 4·6	−15·2	−12·5	Definition fair.
20	M	4	F	− 4·0	− 6·3	− 2·4	Definition poor.
Oct. 22	M	2	F	+ 5·0	−16·9	−24·3	
24	M	2	F	+ 5·6	−20·7	−17·0	Star-line fairly well seen.
28	N	2	F	+ 6·7	−13·6	−12·3	
Nov. 6	M	2	F	+ 9·0	−47·3	−37·1	Definition good.
15	M	2	F	+11·2	−33·2	−37·8	Star-line not well defined.
Dec. 17	M	4	F	+16·4	−39·8	−32·2	Measures considered rough.

β Cassiopeiæ.

Date. 1884.	Obs.	No. of Meas.	Line.	Earth's Motion in M. per sec.	Concluded Motion of Star. Meas.	Concluded Motion of Star. Estimd.	Remarks.
July 21	M	1	F	−11·1	− 6·2	− 9·9	Images very steady.
Aug. 7	M	2	F	−10·9	+12·6	+13·1	Spectrum exceedingly faint.
11	M	2	F	−10·8	+41·6	+33·6	Spectrum and star-line very faint.
14	N	2	F	−10·6	+22·6	+23·3	Spectrum very faint.
25	M	2	F	− 9·8	−33·0	−24·8	Definition poor.
Sept. 4	M	2	F	− 8·7	+ 9·1	+ 8·7	Star-line fairly well defined.
10	M	2	F	− 8·0	−26·8	−27·1	Star-line very faint.
11	N	3	F	− 7·9	+10·5	+13·8	
18	M	2	F	− 6·8	+ 9·9	+10·0	Definition good.
20	M	2	F	− 6·5	−24·5	−14·9	Definition fair.

γ Pegasi.

Date. 1884.	Obs.	No. of Meas.	Line.	Earth's Motion in M. per sec.	Concluded Motion of Star. Meas.	Concluded Motion of Star. Estimd.	Remarks.
Aug. 12	N	2	F	−12·7	+10·1	+12·7	
Sept. 4	M	2	F	− 7·4	−11·8	−10·9	Measures rough.
10	M	2	F	− 5·7	−37·2	−32·2	Measures rough.
18	M	5	F	− 3·4	− 5·7	− 3·0	Star-line ill defined.
20	M	2	F	− 2·8	+20·1	+26·9	Definition poor.
Oct. 28	N	3	F	+ 8·7	−48·7	−48·7	Star-line very faint.
Nov. 6	M	2	F	+11·1	− 0·5	+ 4·4	Definition fair.

γ Cassiopeiæ.

Date. 1884.	Obs.	No. of Meas.	Line.	Earth's Motion in M. per sec.	Concluded Motion of Star. Meas.	Concluded Motion of Star. Estimd.	Remarks.
Aug. 11	M	2	F	−11·7	−16·9	−14·2	Star-line fairly well defined.
25	M	2	F	−11·1	− 1·5	− 4·6	Definition very bad.
Sept. 4	M	2	F	−10·3	− 2·2	− 0·3	Measures very difficult.
10	M	2	F	− 9·6	−20·6	−19·9	Measures exceedingly rough.
11	N	2	F	− 9·5	−39·1	−39·6	
18	M	2	F	− 8·6	−26·2	−15·0	Star-line seen with greatest difficulty.
20	M	2	F	− 8·3	−14·4	− 7·7	Star-line faint.

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Date. 1884.	Obs.	No. of Meas.	Line.	Earth's Motion in M. per sec.	Concluded Motion of Star. Meas.	Estimd.	Remarks.
					δ Cassiopeiæ.		
Aug. 11	M	2	F	−12·3	+ 9·6	+ 9·2	Star-line well defined, but spectrum faint.
14	N	2	F	−12·3	+ 2·0	+ 3·9	
Sept. 11	N	2	F	−10·5	+ 5·7	+ 2·1	
18	M	2	F	− 9·6	−33·7	−25·7	Spectrum faint.
20	M	2	F	− 9·3	−22·6	−17·5	
					β Arietis.		
Feb. 21	M	2	F	+17·6	−55·0	−55·7	
Nov. 6	M	2	F	−10·9	−14·7	− 5·5	
					α Arietis.		
Nov. 20	N	2	F	+ 7·3	+ 4·9	+ 6·4	
					γ Persei.		
Feb. 15	M	2	F	+15·5	−49·1	−51·3	Star-line a difficult object.
21	M	2	F	+15·4	+31·7	+30·3	Star-line faint and very ill defined.
					β Persei.		
Feb. 15	M	4	F	+17·4	−44·0	−50·7	Star-line difficult to bisect.
Aug. 11	M	2	F	−16·5	+ 9·2	+10·3	Spectrum faint, but star-line fairly well defined.
Sept. 10	M	2	F	−15·3	+33·8	+34·2	Star-line seen with difficulty.
18	M	2	F	−14·3	+39·4	+38·4	Spectrum fairly well seen.
Oct. 24	M	2	F	− 6·6	+20·9	+26·0	Star-line very difficult to see.
28	N	2	F	− 5·5	− 2·4	+ 7·5	Star-line broad & diffused
Nov. 6	M	2	F	− 2·9	−27·9	−20·5	
7	N	2	F	− 2·6	−10·1	−11·1	
8	M	2	F	− 2·3	−10·6	−14·2	Star-line not well defined.
20	N	2	F	+ 1·4	−25·7	−28·7	
Dec. 17	M	3	F	+ 9·3	−66·0	−52·7	
					α Persei.		
Feb. 15	M	2	F	+16·2	−66·7	−67·8	Star-line difficult to bisect.
Sept. 10	M	2	F	−14·9	−22·7	−27·2	Star-line fairly well seen.
18	M	2	F	−14·2	+ 3·9	+ 6·2	Definition fair.
Oct. 24	M	2	F	− 7·7	−12·4	− 6·0	Star-line very faint.
28	N	2	F	− 6·7	−53·5	−56·3	
Nov. 7	N	2	F	− 4·0	−35·5	−36·9	
8	M	4	F	− 3·8	− 0·2	0·0	Star-line very ill defined.
Dec. 17	M	2	F	+ 7·2	−34·9	−30·8	

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Date. 1884.		Obs.	No. of Meas.	Line.	Earth's Motion in M. per sec.	Concluded Motion of Star.		Remarks.
						Meas.	Estimd.	
						δ Persei.		
Nov.	8	M	2	F	− 4·7	+30·3	+36·4	Star-line faint, but well defined.
						η Tauri.		
Feb.	15	M	2	F	+18·8	−40·7	−40·3	Measures difficult.
Nov.	8	M	2	F	− 3·7	+ 4·0	+ 3·7	Star-line faint, but well defined.
	20	N	2	F	+ 0·3	−31·6	−31·9	
						Aldebaran.		
Jan.	24	M	2	F	+15·7	+17·4	+19·4	Star-line seen with difficulty.
Feb.	6	M	2	F	+17·6	+ 9·0	+10·5	Spectrum tremulous; star-line ill defined.
	15	M	2	F	+18·4	+ 8·6	+16·0	Definition good.
	21	M	2	F	+18·6	+17·5	+22·6	Definition very bad.
Mar.	12	M	2	F	+17·9	+46·7	+27·9	Definition very bad.
	20	N	2	b_1	+17·0	+ 2·7	+ 4·3	
	24	M	2	b_1	+16·4	+26·8	+24·5	Star-line very faint.
Nov.	8	M	4	F	− 6·7	+57·2	+54·2	Star-line faint and difficult to bisect.
	20	N	2	F	− 2·9	+ 8·4	+ 7·1	Spectrum tremulous. Star-line faint.
Dec.	15	M	2	F	+ 5·3	+34·7	+29·8	Star-line ill defined.
	17	M	2	F	+ 6·0	+18·0	+16·0	Star-line very faint.
						Capella.		
Feb.	11	M	2	F	+15·4	+22·4	+37·0	Star-line well defined.
	15	M	2	F	+15·9	+11·8	+12·7	Star-line very well defined.
	29	N	2	F	+17·0	−12·3	− 9·4	Measures doubtful. Sky hazy.
Mar.	20	N	2	b_1	+16·8	− 1·8	+ 1·5	Measures difficult.
	29	N	2	b_1	+16·0	+11·6	+ 9·8	
Nov.	8	M	2	F	− 9·4	+36·1	+44·9	Star-line fairly well seen.
Dec.	15	M	2	F	+ 1·3	−11·8	−10·3	Small, but unmistakable displacement towards the *blue*.
	17	M	2	F	+ 1·9	+15·5	+21·2	
						Rigel.		
Jan.	24	M	2	F	+12·3	− 5·3	− 3·2	Star-line not well seen.
	28	M	2	F	+13·0	+12·4	+24·4	Measures considered good.
Feb.	6	M	2	F	+14·3	+ 5·4	+ 3·3	Spectrum tremulous; star-line fairly distinct.
	11	M	2	F	+14·9	+44·7	+54·9	
	12	N	2	F	+15·0	+21·8	+16·1	

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Date. 1884.		Obs.	No. of Meas.	Line.	Earth's Motion in M. per sec.	Concluded Motion of Star. Meas.	Estimd.	Remarks.
Feb.	15	M	2	F	+15·3	+19·8	+23·4	Definition very good.
	18	M	2	F	+15·5	+0·2	+0·9	Two prism train. Star-line difficult to see.
	21	M	2	F	+15·7	+19·6	+20·9	Star-line only well seen by glimpses.
Mar.	12	M	2	F	+15·8	+23·7	+17·8	Star-line difficult to see.
Nov.	20	N	2	F	−4·4	+41·8	+39·5	
Dec.	15	M	2	F	+2·6	+13·0	+12·4	Star-line seen well defined by glimpses.
	17	M	2	F	+3·2	+22·0	+20·4	Star-line faint.
						γ Orionis.		
Jan.	28	M	2	F	+13·7	+3·0	+8·8	Spectrum bright and fairly steady.
Feb.	11	M	4	F	+16·1	+9·2	+8·7	
	15	M	2	F	+16·6	+1·8	+9·2	Definition good.
	18	M	2	F	+17·0	−11·7	−10·2	Two prism train. Star-line faint.
	21	M	2	F	+17·2	+0·9	+3·4	Star-line fairly well seen.
Mar.	10	M	2	F	+17·8	−7·5	−10·7	Star-line fairly well defined.
	12	M	2	F	+17·8	−10·2	−11·0	Definition poor.
Dec.	15	M	2	F	+1·7	−13·1	−10·7	Star-line fairly defined.
	17	M	4	F	+2·4	−4·1	−2·9	Spectrum unsteady and star-line faint.
						β Tauri.		
Jan.	28	M	2	F	+13·9	−11·8	−9·8	Measures considered good.
Feb.	11	M	2	F	+16·5	−38·5	−42·2	Star-line well defined.
	12	N	2	F	+16·7	−21·1	−25·5	
	15	M	4	F	+17·1	−14·1	−15·0	Definition fair.
	18	M	2	F	+17·4	−24·6	−31·5	Two prism train. Measures difficult.
	21	M	2	F	+17·7	−29·6	−38·3	Star-line well seen.
Mar.	10	M	2	F	+18·5	−38·6	−33·9	Star-line fairly well defined.
	12	M	2	F	+18·5	−19·6	−18·5	Definition poor.
Dec.	15	M	2	F	+1·2	−22·0	−19·2	Star-line fairly defined.
	17	M	2	F	+1·9	−31·8	−25·5	Spectrum bright and fairly steady.
						δ Orionis.		
Jan.	28	M	2	F	+12·8	−44·0	−40·4	Star only seen by glimpses.
Feb.	11	M	2	F	+15·2	−14·8	−11·7	Star-line very faint and ill defined.
	15	M	2	F	+15·7	+9·8	+12·3	Star-line faint but seen well by glimpses.
	18	M	2	F	+16·0	+14·8	+16·8	Two prism train. Star-line exceedingly faint.
Dec.	15	M	2	F	+1·2	−8·6	−7·2	Measures considered rough.

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Date. 1884.		Obs.	No. of Meas.	Line.	Earth's Motion in M. per sec.	Concluded Motion of Star. Meas.	Estimd.	Remarks.
						ε Orionis.		
Feb.	11	M	2	F	+15·0	−20·5	−18·5	Star-line very faint and ill defined.
	15	M	2	F	+15·5	+24·2	+27·5	Star-line faint, but seen well by glimpses.
	18	M	2	F	+15·9	+ 5·1	+11·4	Two prism train. Measures considered fairly good.
Dec.	15	M	2	F	+ 0·8	+ 4·7	+ 6·8	Star-line only seen well by glimpses.
						ζ Orionis.		
Feb.	11	M	2	F	+14·7	−26·7	−28·7	
	15	M	2	F	+15·2	−11·9	− 6·6	Star-line faint, but seen well by glimpses.
	18	M	2	F	+15·6	− 2·4	− 1·6	Two prism train. Measures considered fairly good.
Dec.	15	M	2	F	+ 0·5	+19·4	+20·6	Star-line only seen well by glimpses.
						κ Orionis.		
Feb.	11	M	2	F	+13·4	− 8·9	+ 0·6	Star-line too faint for satisfactory measures.
	15	M	2	F	+13·9	+14·1	+11·9	Star-line faint, but seen well by glimpses.
						α Orionis.		
Mar.	20	N	3	b_4	+17·7	+31·2	+29·9	Star-line broad and diffused.
	24	M	4	b_1	+17·6	+35·9	+33·5	Definition good.
						β Aurigæ.		
Feb.	2	N	1	F	+12·4	−14·8	−12·4	Spectrum faint.
	15	M	2	F	+14·8	− 3·2	− 1·9	Measures considered good.
Dec.	17	M	2	F	− 0·6	−14·8	−15·2	Star-line broad and ill defined.
						γ Geminorum.		
Feb.	15	M	2	F	+14·2	−30·8	−29·3	Star-line seen well.
Mar.	10	M	2	F	+17·7	+15·7	+14·3	
	15	M	2	F	+18·0	−26·5	−27·6	Star-line well seen, but a *most* difficult one to bisect.
						Sirius.		
Jan.	24	M	2	F	+ 5·5	−16·2	−16·4	Definition bad.
	28	M	3	F	+ 6·4	− 5·5	− 6·6	Spectrum very tremulous.
Feb.	6	M	4	F	+ 8·4	−31·9	−26·2	Spectrum tremulous; clouds passing.
	11	M	4	F	+ 9·4	−36·8	−34·2	
	12	N	2	F	+ 9·6	−31·9	−30·6	Spectrum tremulous.
	15	M	4	F	+10·1	−33·0	−30·9	Star-line slightly displaced towards the *blue*.

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Date. 1884.		Obs.	No. of Meas.	Line.	Earth's Motion in M. per sec.	Concluded Motion of Star. Meas.	Concluded Motion of Star. Estimd.	Remarks.
Feb.	18	M	4	F	+10·6	−17·6	−22·3	Two prism train. Measures considered satisfactory.
Mar.	10	M	4	F	+13·3	−36·4	−35·2	Star-line very ill defined.
	12	M	4	F	+13·5	+ 3·3	+ 0·2	Star in much mist and spectrum faint.
	15	M	4	F	+13·7	− 5·7	− 5·6	Star-line well seen.
April	10	M	2	F	+13·9	−37·5	−37·1	Spectrum very faint.
Dec.	15	M	4	F	− 4·5	−25·8	−29·4	Star-line well seen.
	17	M	4	F	− 4·0	−15·2	−15·7	Star-line fairly well seen.
						Castor.		
Jan.	24	M	1	F	+ 5·1	+ 4·3	+ 7·6	Star-line very difficult to see.
Feb.	6	M	4	F	+ 9·0	+12·4	+10·5	Star-line very ill defined.
	11	M	2	F	+10·4	+ 3·2	+10·0	
	15	M	2	F	+11·5	+23·6	+31·5	Measures considered good.
Mar.	15	M	2	F	+16·8	− 1·3	− 3·7	Star-line difficult to besect.
						Procyon.		
Feb.	6	M	4	F	+ 7·3	+ 0·9	+ 1·5	
	11	M	4	F	+ 8·7	+16·1	+28·0	Star-line very well seen.
	12	N	2	F	+ 9·0	+37·5	+43·9	
	15	M	2	F	+ 9·8	− 5·4	− 5·5	Spectrum steady.
Mar.	10	M	4	F	+14·9	−26·4	−25·4	Star-line very well defined.
	15	M	4	F	+15·7	−33·3	−33·7	Definition good.
April	10	M	4	F	+17·5	+ 9·1	+ 4·3	Star-line very difficult to bisect.
Dec.	15	M	2	F	− 0·9	−12·6	−12·1	Star-line very difficult to hold steadily.
						Pollux.		
Feb.	6	M	2	F	+ 8·0	−38·5	−33·8	
	11	M	2	F	+ 9·4	−38·1	−38·5	
	15	M	4	F	+10·5	−62·2	−61·4	Star-line frequently seen well.
Mar.	15	M	2	F	+16·4	−36·8	−39·8	Star-line *very* faint.
	24	M	2	b_1	+17·4	−50·1	−47·4	Star-line clearly seen.
						α Hydræ.		
Mar.	24	M	2	b_1	+10·7	+15·1	+19·3	Star-line very difficult to see.
						Regulus.		
Feb.	6	M	2	F	− 3·4	+ 6·0	+ 6·0	Star-line ill defined.
Mar.	15	M	2	F	+ 8·6	+20·0	+18·1	Star-line somewhat difficult to bisect.

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Date. 1884.	Obs.	No. of Meas.	Line.	Earth's Motion in M. per sec.	Concluded Motion of Star. Meas.	Concluded Motion of Star. Estimd.	Remarks.
April 10	M	2	F	+14·7	− 5·9	− 3·9	Star-line broad and ill defined.
12	N	2	F	+15·0	−19·4	−15·0	Spectrum somewhat faint.
28	M	2	F	+17·1	− 8·0	+ 2·2	Spectrum faint and rather unsteady.
May 13	N	2	F	+17·9	+ 5·7	+ 7·2	
30	M	2	F	+17·5	−11·9	− 9·3	Measures very difficult.
					γ' Leonis.		
Mar. 24	M	2	b_1	+10·9	− 3·0	− 8·2	Star-line not well seen.
					β Leonis.		
April 10	M	2	F	+ 9·3	−37·3	−31·7	
28	M	2	F	+13·4	−53·4	−53·5	Spectrum unsteady and faint.
May 22	N	2	F	+16·7	−41·5	−42·2	Spectrum faint; star-line indistinct.
					ε Virginis.		
Mar. 24	M	2	b_1	− 1·1	+ 1·0	+ 1·1	Star-lines seen with great difficulty.
					Spica.		
April 5	N	1	F	− 1·8	−37·7	−38·8	Measure very difficult and rough.
May 30	M	2	F	+13·2	−15·8	−13·2	Spectrum very tremulous.
					Arcturus.		
Mar. 24	M	2	b_1	− 4·8	−53·0	−49·7	Star-lines seen very well.
April 5	N	2	F	− 1·6	−49·8	−49·1	Measures difficult.
12	N	3	F	+ 0·3	−55·1	−54·3	
28	M	2	F	+ 4·4	−38·9	−41·5	Star-line only seen by glimpses.
May 13	N	2	F	+ 8·0	−68·6	−73·0	
22	N	2	F	+ 9·8	−53·5	−59·3	
30	M	3	F	+11·3	−54·4	−55·1	
June 2	M	2	F	+11·8	−47·2	−44·6	Spectrum faint.
26	N	3	F	+14·6	−51·6	−55·7	
July 12	N	2	F	+15·3	−64·6	−64·1	Star-line very faint.
Aug. 5	M	2	F	+14·3	−52·9	−51·2	Measures difficult.
29	M	2	F	+11·1	−39·4	−47·4	Definition bad.
Sept. 25	M	2	b_1	+ 5·2	−53·5	−49·0	Star-lines seen with great difficulty.
					α Coronæ Borealis.		
April 28	M	2	F	− 0·3	+41·0	+44·8	Star-line not well seen.
May 22	N	2	F	+ 4·7	+16·3	+17·9	Star-line somewhat diffused.

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Date. 1884.	Obs.	No. of Meas.	Line.	Earth's Motion in M. per sec.	Concluded Motion of Star.		Remarks.
					Meas.	Estimd.	
June 2	M	2	F	+ 6·8	+ 7·2	+ 8·0	Star-line not well seen.
26	N	2	F	+10·4	+16·1	+17·3	Star-line diffused.
July 17	M	2	F	+12·3	−60·7	−54·4	Definition poor. Displacement evidently large towards the *blue*.
Aug. 5	M	2	F	+12·8	+23·8	+30·9	Definition fair, but spectrum faint.
Sept. 2	M	2	F	+11·2	−27·8	−19·8	Observations discordant.
					α Ophiuchi.		
June 26	N	4	F	+ 3·7	−29·8	−32·8	
July 17	M	2	F	+ 8·3	−14·2	−16·7	Star-line very ill defined.
Aug. 5	M	2	F	+11·6	−20·4	−19·8	Spectrum faint. Star-line diffused.
22	M	2	F	+13·6	−38·4	−36·4	Unmistakable displacement towards the *blue*.
23	N	2	F	+13·7	−36·0	−36·8	Spectrum faint.
Sept. 2	M	2	F	+14·4	−62·4	−55·3	Star-line seen distinctly.
					γ Draconis.		
Sept. 25	M	4	b_1	+ 4·7	−24·3	−32·9	Measures very difficult.
					Vega.		
May 13	N	2	F	− 6·5	−22·0	−21·4	
22	N	2	F	− 5·6	−21·0	−22·7	
June 26	N	2	F	− 1·2	−60·3	−58·8	Measures difficult.
July 12	N	2	F	+ 1·1	−36·1	−39·2	
17	M	2	F	+ 1·8	−41·3	−39·7	Spectrum bright.
19	M	2	F	+ 2·0	−38·5	−44·1	Star-line difficult to bisect.
30	N	2	F	+ 3·5	−49·4	−52·1	Star-line difficult to bisect.
Aug. 7	M	2	F	+ 4·5	−30·3	−41·9	Measures considered satisfactory.
19	M	2	F	+ 5·9	−34·8	−32·2	
21	N	2	F	+ 6·1	−38·0	−37·1	
22	M	2	F	+ 6·2	−33·7	−36·6	Definition good.
23	N	2	F	+ 6·3	−37·9	−40·3	
29	M	2	F	+ 6·9	−20·3	−25·1	Definition good.
Sept. 2	M	2	F	+ 7·2	−45·4	−39·5	Definition fair.
4	M	2	F	+ 7·4	−33·5	−32·7	Spectrum bright and steady.
10	M	2	F	+ 7·8	−33·3	−37·3	Definition poor.
12	M	2	F	+ 7·9	−25·4	−24·0	Definition good.
17	N	2	F	+ 8·2	−52·2	−50·9	
18	M	2	F	+ 8·2	−49·5	−40·3	Definition good.

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Date. 1884.	Obs.	No. of Meas.	Line.	Earth's Motion in M. per sec.	Concluded Motion of Star.		Remarks.
					Meas.	Estimd.	
Oct. 22	M	2	F	+ 8·4	−23·9	−27·7	Measures considered good.
25	N	3	F	+ 8·3	−86·3	−86·6	Misty. Measures difficult.
Nov. 6	M	2	F	+ 7·6	−40·7	−31·0	Spectrum bright and steady.
7	N	2	F	+ 7·5	−32·0	−31·1	
γ Lyræ.							
Aug. 19	M	2	F	+ 6·2	−42·2	−35·8	Spectrum faint.
Sept. 12	M	4	F	+ 9·0	−25·8	−30·9	Spectrum faint but steady.
ζ Aquilæ.							
July 17	M	2	F	+ 1·9	−62·1	−43·9	Spectrum faint.
Aug. 19	M	2	F	+ 9·2	−11·8	−12·5	Spectrum faint.
Sept. 10	M	2	F	+12·7	−32·2	−27·4	Spectrum rather faint.
12	M	2	F	+13·0	−44·3	−43·8	Spectrum steady.
Oct. 22	M	2	F	+14·7	−49·2	−53·4	Spectrum very faint.
δ Aquilæ.							
Sept. 12	M	4	F	+14·1	−14·2	−12·1	Star spectrum very faint; displacement practically nil.
δ Cygni.							
Aug. 22	M	2	F	+ 2·1	−29·8	−27·9	Definition fair.
Sept. 12	M	2	F	+ 4·6	+28·2	+24·1	Definition good.
17	N	3	F	+ 5·1	−35·5	−35·7	Star-line somewhat diffused.
Oct. 22	M	2	F	+ 7·8	−43·1	−35·4	Star-line difficult to bisect.
Altair.							
June 26	N	2	F	− 6·4	−36·7	−41·0	
July 17	M	2	F	− 1·1	−38·1	−34·0	Star-line fairly well seen.
19	M	2	F	− 0·7	−39·1	−34·4	Star-line difficult to bisect.
Aug. 5	M	2	F	+ 3·7	−39·8	−37·9	Measures considered good.
19	M	2	F	+ 7·2	−23·2	−23·6	Definition fair.
21	N	2	F	+ 7·6	−41·3	−37·4	
22	M	2	F	+ 7·9	−26·4	−26·2	Definition fair.
23	N	2	F	+ 8·1	−36·7	−36·5	
25	M	2	F	+ 8·5	−30·0	−27·4	Measures considered satisfactory.
29	M	2	F	+ 9·5	−48·8	−49·4	Spectrum faint.
Sept. 1	N	1	F	+10·1	−36·5	−39·8	Cloud passing; measure doubtful.
4	M	2	F	+10·7	−37·3	−35·3	Definition good.
12	M	2	F	+12·2	+ 9·8	+11·7	Definition poor.

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Date. 1884.	Obs.	No. of Meas.	Line.	Earth's Motion in M. per sec.	Concluded Motion of Star.		Remarks.
					Meas.	Estimd.	
Sept. 17	N	2	F	+13·1	−52·5	−54·7	
18	M	2	F	+13·2	−19·3	−16·4	Spectrum tremulous.
Oct. 22	M	2	F	+16·2	+ 0·7	+11·4	Star-line exceedingly ill defined.
25	N	2	F	+16·2	−46·6	−50·4	Star-line broad and diffused.
28	N	2	F	+16·2	−48·6	−45·3	
					γ Cygni.		
Sept. 27	M	2	b_1	+ 6·7	+ 5·9	+ 3·4	Definition bad.
Oct. 22	M	2	F	+ 9·3	−25·6	−31·4	Star-line very faint.
					α Delphini.		
Aug. 19	M	2	F	+ 3·0	−29·4	−27·6	Spectrum exceedingly faint.
22	M	2	F	+ 3·8	−40·0	−40·2	Marked displacement towards the blue.
Sept. 12	M	2	F	+ 8·7	+ 3·0	+ 3·6	Spectrum steady, but very faint.
18	M	2	F	+ 9·9	−50·6	−36·7	Star-line seen with great difficulty.
Oct. 22	M	2	F	+15·0	+46·8	+40·2	Measures considered fairly good.
					α Cygni.		
July 19	M	2	F	− 5·2	−35·3	−32·7	Star-line very faint.
21	M	2	F	− 5·0	−28·6	−32·9	Star-line seen with difficulty.
Sept. 12	M	2	F	+ 2·6	−35·3	−32·7	Star-line well defined.
17	N	3	F	+ 3·4	−41·8	−41·3	Star-line faint.
20	M	3	F	+ 3·8	−45·2	−42·3	Star-line fairly well defined.
25	M	2	b_1	+ 4·5	− 6·2	−13·8	Definition bad.
27	M	2	b_1	+ 4·8	−33·7	−36·9	Measures considered satis factory.
Oct. 22	M	2	F	+ 7·7	−50·3	−53·7	Definition poor.
24	M	2	F	+ 7·9	−49·6	−30·7	Star-line seen with difficulty.
28	N	2	F	+ 8·3	−34·2	−34·2	
Nov. 6	M	2	F	+ 8·9	−43·4	−29·5	Star-line fairly well defined.
7	N	2	F	+ 9·0	−34·4	−34·2	Spectrum faint and unsteady.
					ε Cygni.		
Sept. 25	M	2	b_1	+ 7·2	−11·0	−20·5	Definition bad.
27	M	2	b_1	+ 7·5	− 2·8	+ 2·6	Spectrum unsteady.
Oct. 22	M	2	F	+10·9	+15·4	+22·2	Star-line very faint.
					α Cephei.		
July 17	M	1	F	− 6·2	−26·0	−21·8	Measure made with extreme difficulty.
Aug. 19	M	3	F	− 4·5	−30·7	−39·5	Star-line difficult to bisect.

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Date. 1884.	Obs.	No. of Meas.	Line.	Earth's Motion in M. per sec.	Concluded Motion of Star.		Remarks.
					Meas.	Estimd.	
Sept. 11	N	2	F	− 2·4	−57·0	−56·6	
12	M	2	F	− 2·3	−18·3	−18·3	Star-line difficult to bisect.
20	M	2	F	− 1·5	−40·0	−33·8	Star-line fairly well defined.
Oct. 22	M	2	F	+ 2·1	−29·9	−38·0	
Nov. 6	M	2	F	+ 3·7	−58·2	−36·5	Star-line faint.
					ε Pegasi.		
Sept. 20	M	2	F	+ 8·0	+17·2	+17·7	Definition fair.
25	M	4	b_1	+ 9·2	−17·9	−16·8	
27	M	2	b_1	+ 9·8	−29·0	−27·5	Measures very difficult.
Oct. 22	M	2	F	+14·9	−26·3	−25·9	Star spectrum and line faint.
					ζ Pegasi.		
Aug. 22	M	2	F	− 4·2	−11·7	−11·0	Measures very difficult.
Sept. 10	M	2	F	+ 1·2	−14·9	−18·0	Measures considered satisfactory.
12	M	2	F	+ 1·8	−34·3	−29·1	Definition fair.
20	M	2	F	+ 4·1	+ 2·0	+ 0·8	Measures very rough.
					Fomalhaut.		
Sept. 12	M	2	F	+ 5·3	+26·6	+25·5	Definition very bad.
					β Pegasi.		
Sept. 27	M	4	b_1	+ 2·1	+15·6	+16·5	Star-lines seen with great difficulty.
					α Pegasi.		
Aug. 5	M	2	F	−10·3	−24·0	−26·6	Measures considered rough.
12	N	2	F	− 8·7	+ 3·6	+ 5·2	Star-line broad and ill-defined.
22	M	2	F	− 6·2	−34·3	−30·2	Definition good.
23	N	2	F	− 6·0	−22·6	−22·4	Measures very difficult.
25	M	2	F	− 5·4	−17·1	−13·0	Definition poor.
Sept. 4	M	2	F	− 2·7	−18·3	−19·8	Definition fair.
10	M	2	F	− 1·0	−23·8	−23·5	Definition good.
12	M	2	F	− 0·4	+ 2·6	+ 4·5	Spectrum bright and steady.
17	N	2	F	+ 1·1	−38·8	−39·5	
18	M	2	F	+ 1·4	−57·8	−42·0	Spectrum faint.
20	M	4	F	+ 2·0	+ 3·6	+ 2·4	Definition poor.
Oct. 22	M	2	F	+10·8	−52·4	−51·2	Measures considered good.
24	M	2	F	+11·3	−45·0	−34·1	Star-line seen with difficulty.
28	N	2	F	+12·2	−44·4	−44·5	Spectrum faint; star-line indistinct.
Nov. 6	M	2	F	+14·1	−11·7	−14·1	Star-line fairly well defined.

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Date.	Obs.	No. of Meas.	Line.	Motion Measured.	
				Moon.	
Feb. 2	N	1	F	+ 5·1	Moon in cloud.
6	M	5	F	− 2·3	Coincidence appeared perfect.
11	M	5	F	+ 2·0	
12	N	2	F	− 5·9	Coincidence appeared perfect.
29	N	2	F	− 8·2	Spectrum faint. Sky hazy.
Mar. 10	M	5	F	− 0·2	Lines appeared perfectly coincident.
12	M	2	F	− 2·7	Coincidence very satisfactory.
April 5	N	3	F	− 6·0	Coincidence appeared perfect.
10	M	5	F	+ 4·7	
12	N	2	F	− 2·3	Coincidence appeared perfect.
May 13	N	2	F	− 2·5	Coincidence appeared perfect.
30	M	5	F	− 1·2	Moon spectrum rather faint.
June 2	M	5	F	− 2·6	Moon spectrum rather faint.
July 12	N	2	F	− 4·1	Coincidence appeared perfect.
Aug. 5	M	5	F	− 1·8	Coincidence appeared perfect.
7	M	3	F	− 1·7	Coincidence appeared perfect.
11	M	5	F	+ 0·8	Coincidence appeared perfect.
12	N	2	F	− 9·1	Nearly coincident.
14	N	1	F	− 4·0	
Sept. 1	N	2	F	− 2·0	Coincidence appeared perfect.
2	M	5	F	− 1·4	No want of coincidence detected.
4	M	5	F	− 0·7	Coincidence appeared exact.
10	M	5	F	− 5·6	No want of coincidence detected.
11	N	4	F	− 0·7	Coincidence appeared perfect.
27	M	5	b_1	+ 8·9	Moon-lines very faint.
Oct. 28	N	2	F	− 6·1	Nearly coincident.
Nov. 7	N	4	F	− 1·0	
				Sky.	
Jan. 28	M	5	F	+ 1·9	Coincidence appeared perfect.
29	M	4	F	+ 3·0	No want of coincidence detected.
Feb. 16	M	5	F	+ 2·2	Coincidence appeared perfect.
June 27	N	2	F	− 5·9	Coincidence appeared perfect.
Aug. 22	N	2	F	− 4·9	Coincidence appeared perfect.
26	M	5	F	+ 2·8	
Sept. 19	M	5	F	− 0·3	No want of coincidence could be detected.
22	M	5	F	+ 0·1	
Nov. 7	M	5	F	− 2·2	No want of coincidence detected.

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Date. 1884.	Obs.	No. of Meas.	Line	Earth's Motion in M per sec.	Concluded Motion of Star. Meas.	Estimd.	Remarks.
					Venus.		
Feb. 21	M	2	F		−23·2	−33·6	Measures not considered satisfactory. Computed motion −6·4
29	N	2	F		−49·5	−45·7	Sky hazy. Computed motion −6·8.
Mar. 24	M	4	b_1		−43·2	−34·1	Displacement clearly towards the *blue*. Computed motion −7·6.
					Mars.		
Mar. 15	M	2	F		+17·3	+13·4	Computed motion +8·1.
24	M	2	b_1		+12·6	+20·5	Spectrum bright and steady; lines well seen. Computed motion +8·8.
					Orion Nebula.		
Feb. 15	M	4	F	+15·0	−33·5	−31·0	Measures merely experimental.
18	M	4	F	+15·3	−51·5		No estimations made. Measures most difficult.
					Rotation of Jupiter.		
					Displacement between the *p* and *f* limbs.		
Feb. 6	M	5	F		+33·5		F line in Jupiter not well seen. Slit $0^{in}\cdot0018 = 1''\cdot8$. The slit was placed as nearly on the limb as practicable.
Mar. 24	M	4	b_1		+16·4		Spectrum faint and lines indistinct. Slit $0^{in}\cdot0015 = 1''\cdot5$. The point observed was about $2''$ from the limb.

Computed relative motion of the limbs 30·9 miles per second, the equatorial diameter of *Jupiter* being taken as 88,000 miles, and its period of rotation as $9^h\ 56^m$.

Note on the Nautical Almanac Dimensions of the Saturnian System. By Capt. W. Noble.

For many years I have been in the habit of cutting out stencil plates of latten brass to facilitate the sketching of the various planets by thus previously preparing their outlines. I have been recently struck, however, with the discrepancy between the observed proportions of the system of *Saturn* and his rings as seen in the telescope and those derived from diagrams carefully prepared from the data given in the *Nautical Almanac*. To illustrate what I mean I subjoin two sketches, one made at the